



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,035	04/08/2004	Russell John Williamson	H0682.70007 US00	9245
7590	02/24/2006			
Steven J. Henry Wolf, Greenfield & Sacks, P.C. 600 Atlantic Avenue Boston, MA 02210				
			EXAMINER IP, SHIK LUEN PAUL	
			ART UNIT 2837	PAPER NUMBER

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

FL

Office Action Summary	Application No.	Applicant(s)	
	10/821,035	WILLIAMSON ET AL.	
	Examiner	Art Unit	
	Paul Ip	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25, 34-42, 44 and 45 is/are rejected.
- 7) ☒ Claim(s) 26-33 and 43 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/16/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 7/16/2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-13, 20-22, 25, 34-42, 44 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al (6,381,406).

With respect to claims 1, the patent to Smith et al shows in figure 3 the method steps of defining an ideal TACH at step 201, monitoring the actual TACH at step 204, comparing the monitored TACH output to the ideal TACH output at steps 210 and 212, and changing the period of the drive signal at step 214. With respect to claims 2-7, 10-13, 20-22, 25, 36-42, 44 and 45, Smith shows in figure 2 the Ton and Toff with respect to the pole and sync signals. With respect to claims 8 and 9, Smith discloses at claim 1 the delay. With respect to claims 34 and 35, Smith determining the stall condition at step 222.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al (6,381,406) in view of Getz et al (6,940,235).

Claims 14 and 15 further recite a first sample signal at a time approximately equivalent to $\frac{1}{4}$ Toff and the second at a time $\frac{1}{2}$ Toff. Whereas, the patent to Getz et al discloses that different TACH signals are sampled. Since Smith et al disclose at column 4 line 47 to column 5 line 5 that the TACH signal is generated every half revolution of the rotor. For the benefit of sampling the TACH signal at different rotor positions, having Getz et al in front of Smith et al, it would have been obvious to one of ordinary skill in the art to provide Smith et al with the TACH signals sampled at different times such as $\frac{1}{4}$ Toff and $\frac{1}{2}$ Toff.

Art Unit: 2837

7. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al (6,381,406) in view of Karwath et al (6,825,625).

Claims 16-19 further recite a lookup table for TACH signals. However, the patent to Karwath et al discloses device with an electric motor comprising an EEPROM for storing TACH signals, see figure 20. Since Smith et al show in figure 3 the flow chart program runs on the microprocessor 102 with TACH sync signals, have Karwath et al in front of Smith et al, it would have been obvious to one of ordinary skill in the art to provide Smith et al with the look-up table as taught or suggested by Karwath et al.

8. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al (6,381,406) in view of Tsai et al (2004/0263105).

Claims 23 and 24 further recite that the rotation speed of the fan is related to an operating temperature. Whereas, the patent to Tsai et al discloses a thermal control variable speed circuit for controlling the speed of the fan. Since Smith et al disclose at the background of the invention that the fan speed is a variable with the temperature, in order to control the fan speed with respect to the temperature, one of ordinary skill in the art would appreciate the temperature controlled fan speed control as taught or suggested by Tsai et al.

Allowable Subject Matter

9. Claims 26-33 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2837

Citation of Pertinent References

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited on the form 892 are pwm fan speed control systems using TACH signals for controlling the fan speed.

Communication Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Ip whose telephone number is (571)-272-1941. The examiner can normally be reached on Monday to Friday from 6:30 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley, can be reached on (571)-272-2833. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Ip
Primary Examiner
Art Unit 2837

2/17/2006